Claims

1. A cDNA library, comprising polynucleotides isolated from a visual cortex of a kitten about 24-35 days old.

2. A cDNA library, comprising polynucleotides differentially expressed between polynucleotides isolated from a visual cortex of a kitten about 24-35 days and polynucleotides isolated from a visual cortex of an adult feline.

3. A cDNA library, comprising polynucleotides differentially expressed between polynucleotides isolated from a visual cortex of a dark-reared adult feline and polynucleotides of a visual cortex of an adult feline.

4. A cDNA library, comprising polynucleotides commonly expressed between cDNA libraries according to claim 2 and claim 3.

5. The cDNA library of claim 1, 2, or 4 wherein said kitten is about 25-30 days old.

6. The cDNA library of claim 1, 2, or 4 wherein said kitten is about 28 days old.

7. A cDNA library, comprising polynucleotides isolated from the visual cortex of a dark-reared adult feline.

8. A composition comprising an isolated polynucleotide having a sequence designated as one of:

SEQ. ID. NOS: 1-132

or allelic variation thereof or complementary sequence thereto, or portion thereof at least 15 nucleotides in length.

9. The composition of claim 8 wherein said portion of said polynucleotide is at least 50 nucleotides in length.

10. The composition of claim 9 wherein said the portion of said polynucleotide is in the range of about 50-100 nucleotides in length.

11. A composition comprising an isolated cDNA displaying at least 90% homology with the coding region of a polynucleotide corresponding to a sequence designated as one of:

SEQ. ID. NOS.: 1-132.

12. The composition as in claim 11 wherein said homology is at least 95%.

13. The composition of claim 12 wherein said homology is at least 97%.

14. The composition of claim 11 wherein said cDNA encodes a cell membrane associated protein.

15. The composition of claim 11 wherein said cDNA encodes a neurotransmitter release and processing associated protein.

16. The composition of claim 11 wherein said cDNA encodes a cell or tissue remodeling associated protein.

17. The composition of claim 11 wherein said cDNA encodes a cytoskeletal protein.

18. The composition of claim 11 wherein said cDNA encodes polypeptides associated with mRNA transcription and processing.

19. The composition of claim 11 wherein said cDNA encodes polypeptides associated with energy, metabolism, and mitochondrial function.

20. The composition of claim 11 wherein said cDNA encodes polypeptides associated with neural plasticity.

21. The composition of claim 11 wherein said cDNA is at least 50 nucleotides in length.

22. The composition of claim 21 wherein said cDNA is about 50-100 nucleotides in length.

23. A composition comprising a human gene, said gene being capable of hybridizing to a sequence designated as any one of SEQ. ID. NOS.: 1-93, 120-132, or to a sequence complementary thereto, under hybridization conditions sufficiently stringent to require at least about 80% base pairing.

24. The human gene of claim 23 wherein said hybridization conditions are sufficiently stringent to require at least 90% base pairing.

25. The human gene of claim 24 wherein said hybridization conditions are sufficiently stringent to require at least 92% base pairing.

26. An antisense polynucleotide capable of blocking expression of a gene product of any one of the sequences of claim 23.

27. A triple helix probe capable of blocking expression of a gene product of any one of the sequences of claim 23.

28. A composition, comprising a nucleic acid molecule according to any one of claims 1 to 27, in substantially purified form.

29. A construct, comprising a vector capable of directing the expression of a nucleic acid molecule according to any one of claims 1 to 25.

30. The construct of claim 29 wherein the vector is selected from the group consisting of retrovirus, adenovirus, herpes simplex virus, and vaccinia virus.

31. The construct of claim 29 wherein the vector is selected from plasmids and amplicon vectors.

32. A composition, comprising *ex vivo* mammalian cells carrying a construct according to claim 29.

33. A method of treating warm-blooded animals for neurological disorders, comprising:

administering to a warm-blooded animal a therapeutically effective amount of a composition comprising a polynucleotide, according to any one of claims 1-27, in combination with a pharmaceutically acceptable carrier or diluent such that said neurological disorder is treated.

34. The method of claim 33 wherein said neurological disorder is selected from the group consisting of Alzheimer's disease, depression, manic depression, ischemic brain disease, epilepsy, schizophrenia, Parkinson's disease, multiple sclerosis, amyotrophic lateral sclerosis, and AIDS neurodegeneration.

35. The method of claim 33 wherein said neurological disorder is selected from the group consisting of stroke, traumatic head injury, and traumatic spinal cord injury.

36. A method of treating warm-blooded animals for learning disorders, comprising administering to a warm-blooded animal a therapeutically effective amount of a composition comprising a polynucleotide according to any one of claims 1-27 in combination with a pharmaceutically acceptable diluent or carrier, such that the learning disorder is treated.

37. A method of enhancing learning and memory of warm-blooded animals, comprising administering an effective amount of a polynucleotide according to any one of claims 1-27 in combination with a pharmaceutically acceptable carrier or diluent, such that learning and memory are enhanced.

38. The method of claims 33, 34, 35, 36 or 37 wherein the composition is administered via *ex vivo* mammalian cells carrying a construct according to claim 29.

39. A pharmaceutical composition, comprising any one of the polynucleotides according to claims 1-27 in a pharmaceutically acceptable diluent or carrier.

40. A composition, comprising a peptide of at least about 10 amino acids in length encoded by a sequence designated as one of:

SEQ. ID. NOS.: 1-93 and 127-132.

41. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of

SEQ. ID. NOS.: 1-10.

42. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of

SEQ. ID. NOS.: 11-20.

43. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of

SEQ. ID. NOS.: 21-30.

44. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of SEQ. ID. NOS.: 31-40.

45. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of SEQ. ID. NOS.: 41-50.

46. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of SEQ. ID. NOS.: 51-60.

47. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of SEQ. ID. NOS.: 61-70.

48. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of SEQ. ID. NOS.: 71-80.

49. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of SEQ. ID. NOS.: 81-90.

50. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of SEQ. ID. NOS.: 91-93.

51. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of SEQ. ID. NOS.: 121-126.

52. A composition as in claim 40 wherein said peptide is encoded by a sequence designated as one of SEQ. ID. NOS.: 127-132.

53. The composition of claim 40 wherein said peptide is about 100-150 amino acids in length.

54. The composition of claim 40 wherein said peptide is at least 130 amino acids in length.

55. A composition, comprising a recombinant binding partner capable of specifically binding a gene product encoded by the coded sequence designated as one of:

SEQ. ID. NOS.: 1-132

or a sequence complementary thereto.

56. The composition of claim 55 wherein said recombinant binding partner is selected from the group consisting of: antibodies or fragments thereof, peptides and small organic molecules.

ADD B27